

# DIGITAL SOLUTIONS FOR SUSTAINABLE DEVELOPMENT (DSSD) PROGRAM

DSSD PROGRAM

## PROGRESS REPORT APRIL TO JUNE 2020

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# INTRODUCTION

The past three months have been challenging, but also insightful as DSSD has not been spared from the corona crisis this year either. Nevertheless, DSSD is very grateful for the active partner commitment and is positively surprised about the many activities that could take place despite COVID-19. Here, the creativity and willingness of the teams and partners to work together virtually was particularly evident.

In this newsletter we summarize DSSD's activities of the past three months. Among the highlights are the planning for the next project phase, the launch of the Emerging Technology Study, new partnerships e.g. with Deloitte and our Online Community Meetups. Enjoy reading!



## Planning DSSD Phase II

In the past two months, DSSD has conducted the appraisal mission with an expert team from Germany to plan the next phase of the DSSD project. Therefore, the expert team not only conducted several interviews with the main political partners MINICT and RISA, but also consulted different important players in the digital ecosystem in Rwanda. In total, 30 interviews have been conducted. The findings indicated that DSSD has a good reputation among the players in the ecosystem.

Moreover, the DigiCenter and the program's activities are not in contradiction with other players in the sector and add value to the ecosystem. In the second phase, DSSD will focus more on the topic collaboration between public and private sector, digital inclusion and sustainability of the interventions.



# 1 INTRODUCTION

## One Mainstreaming Analysis

In parallel with the appraisal mission, an analysis was carried out to summarize issues related to one mainstreaming and potentials for inclusion in the ICT sector. The results of the analysis will be used to better target digital activities towards the digital inclusion of women, the rural population and people with disabilities.



## 2.A: Human Resource and Institutional Development

### 2.A1: Institutional support to RISA

#### Coaching at RISA

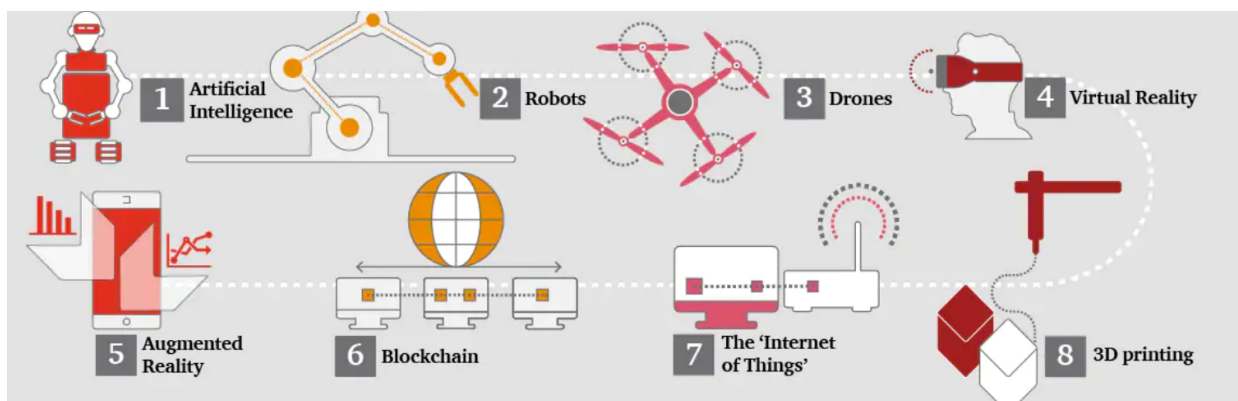
The project aims at transferring skills through providing comprehensive technical expertise in different IT-domains. Experts will provide hands-on skills by working on assigned projects and mentor RISA's technical professionals. The five domains supported are:

- Project Management, 100% completed
- TYPO 3, 100% completed
- Networking, 95% completed
- Enterprise Architecture, 100% completed
- Software Architecture, 90% completed



#### Emerging Technology (ET) Strategy

The final version of the Emerging Technology strategy has been verified by MINICT during a validation workshop which was held on 28th May 2020. The ET-strategy sets out essential fourth industrial revolution technologies that Rwanda will focus on over the next five years. Rwanda will concentrate on the following areas: health, education, agriculture, manufacturing, tourism, and everyday government services to citizens. An estimation indicates that the Government of Rwanda needs to raise at least US\$ 20 million in five years (\$4 million a year) to develop its capabilities in these critical areas.





## 2 PROGRESS PER OUTPUT DURING THE PERIOD

### 2.A: Human Resource and Institutional Development

#### 2.A2: Capacity Development

#### IoT and Machine Learning Trainings

Due to the COVID-19 lockdown since March, the IoT and Machine Learning trainings have been on hold. Regulations implemented by the government of Rwanda did not allow moving freely between provinces or meetings with large numbers of people. Because of the cohort size of 35 people, DSSD is now in negotiations to take all the trainings online as follows:

- DSSD is looking into the possibility of having the IoT trainings online by partnering with innovators like the Watch IT group who have IoT online modules and STES for content delivery.
- For the machine learning trainings, DSSD is looking into the possibility of having smaller cohorts online to deliver more value for longer periods. The scoping of both trainings is underway, so that the online training exercise can start in the beginning of July.



## 2 PROGRESS PER OUTPUT DURING THE PERIOD

### 2.B: Digital Solutions Development

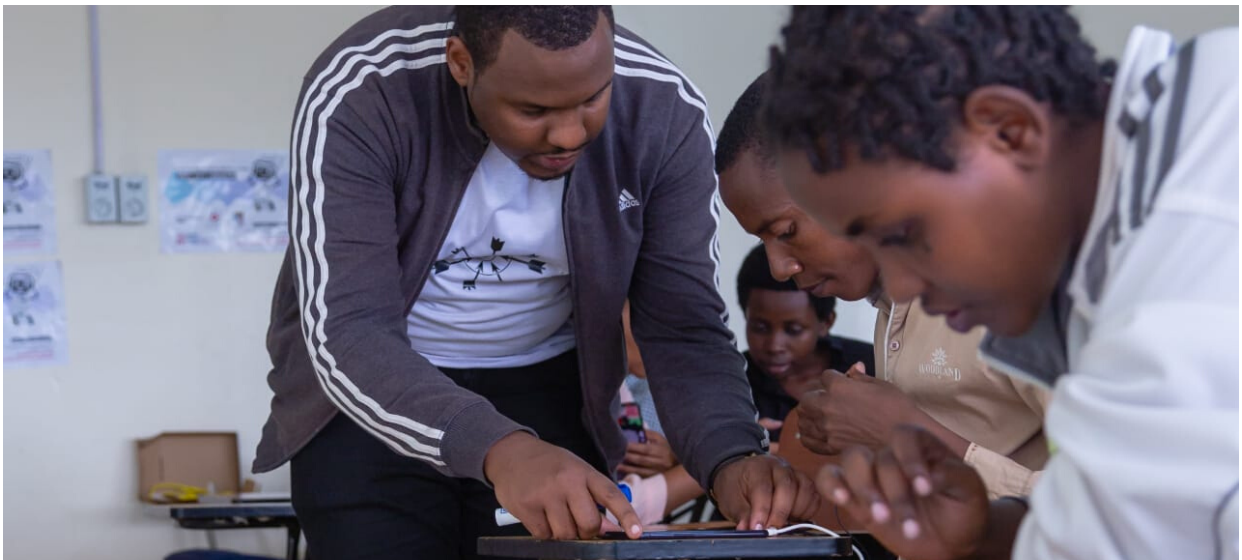
#### 2.B1: Development of 14 Solutions

##### **Kinyarwanda Language Engine**

The main objective of this project is to build open Kinyarwanda Voice Data Sets allowing developers to create more inclusive solutions by using a voice-to-text interface.

So far,

- more than 1,200,000 sentences were collected and data set curation completed
- the voice collection and verification for the second cohort is completed
- the third phase of voice collection and verification is ongoing, and 719h have been recorded and 508h voice have been verified.



##### **Blood Bank Management System**

The team of NCBT, RBC, DSSD and RISA are in an exercise of creation of BPMN charts of all blood bank business processes. The purpose is to feed an architecture that will then be used in the development of the blood bank management system. This exercise started in April and will run throughout July.

Through this exercise some fine-tuning of key areas that are innovative and were missed in the past can be addressed, e.g. the possibility of the integration with international blood bank systems.

## 2 PROGRESS PER OUTPUT DURING THE PERIOD

### 2.B: Digital Solutions Development

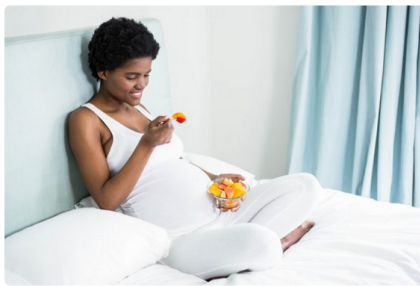
#### 2.B1: Development of 14 Solutions

##### Digital Walking Stick

The main purpose is to produce a digital walking stick that will enable visually impaired people to detect obstacles in the distance of 50 cm by using sound and vibration. This will reduce challenges that visually impaired people face in their daily lives.

Status of the innovation phase:

- Prototype for digital walking stick completed
- Testing phase is ongoing



CONCEPTION

##### NUTRITION NEEDS DURING PREGNANCY

by Kwizera Philemon | June 10, 2020

Pregnancy is a critical period in the life cycle because of many body changes that...

##### Nutri Rwanda

Nutri Rwanda is a mobile application for women in rural areas offering online nutritional services. This includes consultancy on diet therapy, meal planning and child growth monitoring. Nutri improves nutritional knowledge, attitudes, and practices from individual level to households in the rural areas.

Status during innovation phase:

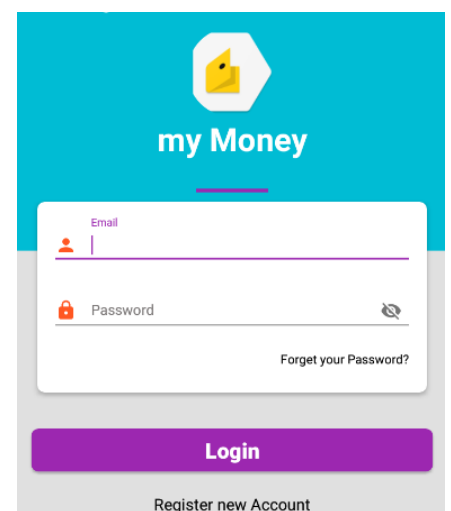
- Development of web application completed.
- Development of mobile application is ongoing and 70% of system features completed

##### My Money

The project intends to build a digital platform which will link female refugees to financial institutions enabling them to access loans and to promote financial inclusion. This will be done through a web-based and mobile match-making application where women refugees can share their business plans and get connected to funding possibilities.

Status Innovation Phase:

- Development of web application completed.
- Development of mobile application is ongoing, 80% of work is completed





## 2 PROGRESS PER OUTPUT DURING THE PERIOD

### 2.B: Digital Solutions Development

#### 2.B1: Development of 14 Solutions

##### Smart Agriculture

The second quarter of 2020 saw the full deployment and operationalization of the smart irrigation prototype. A total of 24 datapoints were installed in the Rwanda-Israel Horticulture Center of Excellence (HCoE) farms; 15 units in the green house and 9 units in the open field.

Additionally, a dashboard was set up to display live up-to-date info from the data points. This dashboard also incorporates irrigation control sliders to monitor each watering group in the fields as well as automatically generate weekly reports from the fields. Furthermore, DSSD has begun system trainings to HCoE staff as well as RISA interns with further trainings planned for July.



##### Collaboration with Deloitte to improve Labor Market Information System and Digital Ecosystem Mapping Tool

The LMIS is at the handover stage to the end users at RDB. However, Deloitte has offered to support DSSD and the consultant Techclick to improve the design and user experience of the system within a pro-bono initiative. With the assistance of data experts from Deloitte this exercise is underway. It will be kicked off in July and run until August.

The end user RDB LMI department is provisioning servers and control panels to migrate the site. DSSD will provide trainings on how to manipulate and change settings in the system for the end users. This is going to be an induction exercise before handover is fully completed.



## 2 PROGRESS PER OUTPUT DURING THE PERIOD

### 2.B Digital Solutions Development

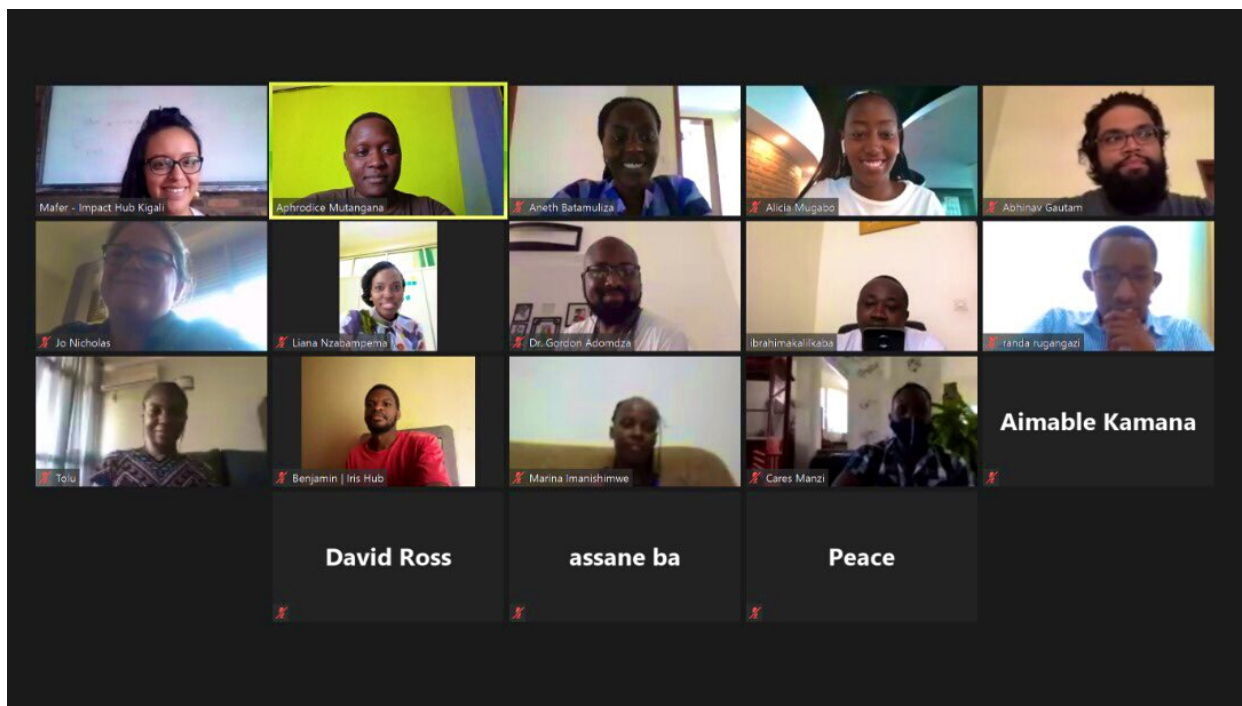
#### 2.B2 Presentation of digital solutions at continental level

In June, DSSD had the chance to present the Smart Agriculture solution to potential partners from Kenya. DSSD demonstrated the smart irrigation solution to the “WATER and ENERGY for FOOD” initiative implemented by GIZ in Kenya to expand the solution across the East African region. Moreover, the solution was presented to a team from the German Federal Ministry of Economic Cooperation and Development (BMZ) to potentially expand this solution across Africa.

## 3 COMMUNITY AND EVENTS

Due to the lockdown since March, DSSD has not been able to host onsite events. However, some of the events have been shifted online. In April, DSSD hosted a Twitter Q&A session where the public could engage in real-time asking about Digital Umuganda and the Kinyarwanda National Language Voice Engine.

Furthermore, the Future of Hubs event took place on 24th June showcasing best practices for entrepreneurship support. This online event was attended by 18 people.




# 4 COMMUNICATION AND VISIBILITY

## Joint communication activities with MINICT

In the last Steering Committee, MINICT and DSSD decided to join forces in their communication activities. Therefore, DSSD has shared its communication strategy and offered to share a monthly workplan to synchronize MINICT's and DSSD's communication activities to reach a broader audience.

## New DigiCenter page on GIZ's intranet

DSSD is happy to inform you that we launched a page for the DigiCenter on our GIZ internal intranet. The page walks visitors through DSSD's activities and the solutions developed at the DigiCenter. This way, DSSD can reach other GIZ projects for whom the solutions might be interesting to scale and adapt in other countries.


Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

GIZ Rwanda


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### DigiCenter



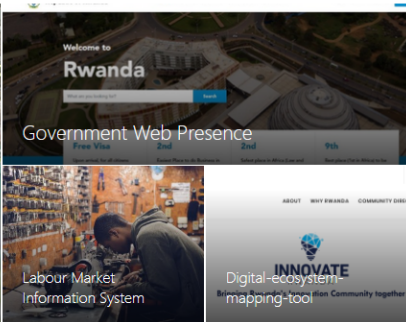
#### SUPPORTING DIGITALIZATION IN AFRICA

The Digital Transformation Center is a Rwandan-German Initiative aimed at developing impact-driven digital solutions in Africa. Therefore, it not only provides advisory services and training for government institutions and local tech companies, but also a modern space to boost creativity and collaboration.


#### Solutions developed in the center



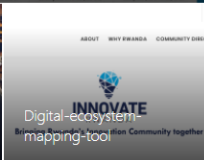
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


Labour Market Information System






INNOVATE  
Digital-ecosystem mapping-tool  
Innovation Community together

#### Links

-  DigiCenter Website
-  GIZ (DSSD)
-  Infographic

#### Contact

-  Seidel, Olaf GIZ RW  
1400 Projektleiter/in
-  Werkmeister, Lisa GIZ RW  
1400 Juniorfachkraft
-  Martinez, Toni GIZ RW  
1400 Professional (technisch)

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